

(19)



JP 2003-212734

Europäisches Patentamt

European Patent Office

Office européen des brevets



(11)

EP 1 329 215 A2

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:
23.07.2003 Bulletin 2003/30

(51) Int Cl.7: A61K 7/06, A61K 7/50

(21) Application number: 03000044.2

(22) Date of filing: 07.01.2003

(84) Designated Contracting States:
 AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
 HU IE IT LI LU MC NL PT SE SI SK TR
 Designated Extension States:
 AL LT LV MK RO

(30) Priority: 21.01.2002 JP 2002011923

(71) Applicant: Kao Corporation
Tokyo 103-8210 (JP)

(72) Inventors:

- Terazaki, Hiroyuki
Sumida-ku, Tokyo 131-8501 (JP)
- Kasuga, Fumiko
Sumida-ku, Tokyo 131-8501 (JP)
- Hirota, Osamu
Sumida-ku, Tokyo 131-8501 (JP)

(74) Representative: HOFFMANN - EITLE
 Patent- und Rechtsanwälte
 Arabellastrasse 4
 81925 München (DE)

(54) Hair cleansing compositions

(57) A hair cleansing composition comprises the following ingredients (A) to (D):

- (A) an anionic surfactant having a sulfate group,
- (B) a cationic guar gum,
- (C) an organic acid selected from a hydroxycarboxylic acid, a dicarboxylic acid or an aromatic carboxylic acid, and
- (D) a salt;

and has a pH of from 1 to 4 when diluted 20-fold by

weight with water.

The hair cleansing composition has good foamability and high-lubricity foam quality upon washing and smooth touch upon rinsing, and is excellent in the luster and softness of hair after drying and also superb in stability.

EP 1 329 215 A2

Description**Technical Field**

5 [0001] This invention relates to hair cleansing compositions, which have good foamability and high-lubricity foam quality upon washing and smooth touch upon rinsing, and are excellent in the luster and softness of hair after drying and also superb in stability.

Background Art

10 [0002] It is a common practice to incorporate a cationic high-molecular electrolyte in a hair cleansing composition such as a shampoo so that physical properties of its foam are modified to improve touch in use during washing and to improve finger combing upon rinsing. For example, there have been proposed hair cleansing compositions containing anionic surfactants, amphoteric surfactants, cationic guar gum or nonvolatile silicones (WO 97/41827) and hair cleansing compositions containing ethoxylated organic carboxylic acid anionic surfactants, cationic derivatives of polygalactomannan gum, polysiloxane droplets, or organic carboxylic acids or salts thereof (JP-A-2001-10934). With these techniques, however, fully satisfactory performance has not been obtained yet with respect to foamability and foam lubricity upon washing and smoothness upon rinsing.

15 [0003] In hair treatments such as hair rinses and hair conditioners, it is also practiced to lower the pHs of their systems to impart luster and softness to hair. No attempt has, however, been made to lower the pHs of hair cleansing compositions, because the hair cleansing compositions are intended to impart neither luster nor softness in general.

20 [0004] With a view to providing hair cleansing compositions with such a luster and softness-imparting function as described above, the present inventors conducted research on low-pH hair cleansing compositions which made use of organic acids. A problem, however, arose in that in a low pH range, anionic surfactants as cleansing ingredients 25 underwent decomposition, resulting in stability deteriorations such as gelling of systems and reductions in foamability.

Disclosure of the Invention

30 [0005] The present invention has as an object the provision of a hair cleansing composition, which has good foamability and high-lubricity foam quality upon washing and smooth touch upon rinsing, and is excellent in the luster and softness of hair after drying and also superb in stability.

35 [0006] The present inventors have found that the decomposition of an anionic surfactant in a low pH range making use of an organic acid can be inhibited by incorporation of a salt in the system and also that a reduction in foamability due to the incorporation of a salt can be overcome by using cationic guar gum.

[0007] Described specifically, the present invention provides a hair cleansing composition comprising the following ingredients (A) to (D):

- (A) an anionic surfactant having a sulfate group,
- (B) a cationic guar gum,
- 40 (C) an organic acid selected from a hydroxycarboxylic acid, a dicarboxylic acid or an aromatic carboxylic acid, and
- (D) a salt;

wherein the hair cleansing composition has a pH of from 1 to 4 when diluted 20-fold by weight with water.

45 [0008] Owing to the above-described features, the hair cleansing composition according to the present invention has good foamability and high-lubricity foam quality upon washing and smooth touch upon rinsing, and is excellent in the luster and softness of hair after drying and also superb in stability.

Best Modes for Carrying out the Invention

50 [0009] Examples of the sulfate-type anionic surfactant as the ingredient (A) can include polyoxyethylene alkyl ether sulfates, polyoxyethylene alkenyl ether sulfates, alkyl sulfates, and polyoxyalkylene alkyl phenyl ether sulfates. Particularly preferred are those represented by the following formula (1) or (2):





(2)

5 wherein R¹ represents an alkyl group or alkenyl group having 10 to 18 carbon atoms, R² represents an alkyl group having 10 to 18 carbon atoms, M represents an alkali metal, alkaline earth metal, ammonium, alkanolamine or basic amino acid, and m stands for a number of from 1 to 5.

10 [0010] Two or more of these sulfates may be used in combination as the ingredient (A). From the standpoint of foamability and also of liquid properties and cleansing property at the time of use, the content of the ingredient (A) may range preferably from 1 to 50 wt.%, more preferably from 8 to 30 wt.%, particularly from 10 to 22 wt.%, all based on the hair cleansing composition according to the present invention.

15 [0011] The content of the cationic guar gum as the ingredient (B), from the standpoint of foam lubricity and also of smoothness from washing to rinsing, may range preferably from 0.05 to 5 wt.%, more preferably from 0.1 to 3 wt.%, particularly from 0.3 to 1 wt.%, all based on the hair cleansing composition according to the present invention.

20 [0012] Examples of the organic acid as the ingredient (C) can include dicarboxylic acids such as malonic acid, succinic acid, glutaric acid, adipic acid, maleic acid, fumaric acid and phthalic acid; hydroxycarboxylic acids such as glycolic acid, lactic acid, hydroxyacrylic acid, oxybutyric acid, glyceric acid, malic acid, tartaric acid and citric acid; and aromatic carboxylic acids such as salicylic acid and benzoic acid. Among these, α -hydroxycarboxylic acids are preferred, with lactic acid and malic acid being particularly preferred.

25 [0013] Two or more of these organic acids may be used in combination as the ingredient (C). From the standpoint of improvements in the finish of hair such as luster and manageability, the content of the ingredient (C) may range preferably from 0.05 to 10 wt.%, more preferably from 0.1 to 5 wt.%, particularly from 0.5 to 1 wt.%.

30 [0014] The salt as the ingredient (D) may be either an inorganic salt or an organic salt. Specific examples of the inorganic salt can include sodium chloride, sodium sulfate, sodium phosphate, potassium chloride, potassium sulfate, and potassium phosphate, while specific examples of the organic salt can include trisodium citrate, sodium malate, sodium glycolate, and sodium lactate.

35 [0015] Two or more of these salts may be used in combination as the ingredient (D). From the standpoint of feeling in use and stability, the content of the ingredient (D) may range preferably from 0.01 to 3 wt.%, more preferably from 0.1 to 2 wt.%, particularly from 0.1 to 1 wt.%.

40 [0016] Incidentally, the weight ratio of the sulfate-type anionic surfactant (A) to the salt (D) may range preferably from 50/0.1 to 3/1 from the standpoint of an improvement in the stability of the ingredient (A) and also of foam volume and cleansing property.

45 [0017] For providing the hair cleansing composition according to the present invention with improved touch feel and also with improved luster and softness after washing, it is preferred to additionally incorporate an aromatic alcohol. Examples of the aromatic alcohol can include benzyl alcohol, benzyloxyethanol and phenoxyethanol, with benzyl alcohol and benzyloxyethanol being particularly preferred.

50 [0018] Two or more aromatic alcohols may be used in combination. The content of the aromatic alcohol may range preferably from 0.01 to 20 wt.%, more preferably from 0.1 to 10 wt.%, particularly from 0.5 to 5 wt.%, all based on the hair cleansing composition according to the present invention.

55 [0019] To further improve the foamability of the hair cleansing composition according to the present invention, one or more surfactants other than the ingredient (A), said surfactants being selected from anionic surfactants, nonionic surfactants and amphoteric surfactants, may also be incorporated.

[0020] The anionic surfactants other than the ingredient (A) can include sulfonate-type anionic surfactants and carboxylate-type anionic surfactants. Illustrative are alkyl sulfosuccinate salts, alkyl polyoxyalkylene sulfosuccinate salts, higher fatty acid salts, and alkanesulfonate salts.

[0021] Examples of the nonionic surfactants can include polyoxyalkylene sorbitan fatty acid esters, polyoxyalkylene sorbitol fatty acid esters, polyoxyalkylene glycerol fatty acid esters, polyoxyalkylene fatty acid esters, polyoxyalkylene alkyl ethers, polyoxyalkylene alkyl phenyl ethers, polyoxyalkylene (hydrogenated) castor oils, sucrose fatty acid esters, polyglyceryl alkyl ethers, polyglyceryl fatty acid esters, fatty acid alkanolamides, and alkyl glycosides. Among these, alkyl glycosides, polyoxyalkylene (C₈-C₂₀) fatty acid esters, polyoxyethylene sorbitan fatty acid esters, polyoxyethylene hydrogenated castor oil and fatty acid alkanolamides are preferred. Preferred fatty acid alkanolamides are those containing acyl groups having the carbon numbers of from 8 to 18, especially from 10 to 16. The fatty acid alkanolamides can be either monoalkanolamides or dialkanolamides. Preferred are those containing hydroxyalkyl groups having the carbon numbers of from 2 to 3. Illustrative are oleic diethanolamide, palm kernel oil fatty acid diethanolamide, coconut oil fatty acid diethanolamide, lauric diethanolamide, polyoxyethylene coconut oil fatty acid monoethanolamides, coco-nut oil fatty acid monoethanolamides, lauric isopropanolamide, and lauric monoethanolamide.

[0022] The amphoteric surfactants can include betaine-type surfactants. Among these, betaine-type surfactants such as alkylidimethylaminoacetic acid betaines and fatty acid amidopropyl betaines are more preferred, with fatty acid ami-

dopropyl betaines being particularly preferred. Of these fatty acid amidopropyl betaines, preferred are those having acyl groups whose carbon numbers are from 8 to 18, especially from 10 to 16. Particularly preferred are lauramidopropyl betaine, palm kernel oil fatty acid amidopropyl betaines, and coconut oil fatty acid amidopropyl betaines.

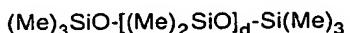
[0023] These surfactants other than the ingredient (A) can be incorporated, as needed, in the hair cleansing composition according to the present invention. When the hair cleansing composition according to the present invention is formulated into the form of an aqueous liquid cleansing composition, use of a fatty acid amidopropyl betaine or fatty acid alkanolamide in combination with the ingredient (A) is particularly preferred because this makes it possible not only to further improve the foaming power but also to obtain adequate liquid properties.

[0024] When a fatty acid amidopropyl betaine or fatty acid alkanolamide is incorporated as described above, its content may range preferably from 0.1 to 10 wt.%, more preferably from 1 to 8 wt.%, particularly from 2 to 6 wt.%, all based on the hair cleansing composition according to the present invention, since good foam-boosting effect can be obtained.

[0025] In the hair cleansing composition according to the present invention, a silicone can be incorporated to improve the post-drying finish. Examples of the silicone can include the followings:

(1) Dimethylpolysiloxanes

[0026] Illustrative are those represented by the following formula:



wherein each Me represents a methyl group, and d stands for a number of from 3 to 20,000.

(2) Amino-modified silicones

[0027] One having an average molecular weight of from about 3,000 to 100,000 and listed under the name of "Amodimethicone" in the third edition of the CTFA dictionary (Cosmetic Ingredient Dictionary, U.S.A.) is preferred, although a variety of amino-modified silicones are usable. This amino-modified silicone can be used preferably as an aqueous emulsion, and its commercial products include "SM 8704C" (Dow Corning Toray Silicone Co., Ltd.) and "DC 929" (Dow Corning Corporation).

(3) Other silicones

[0028] As silicones other than those described above, there are also polyether-modified silicones, methylphenyl-polysiloxane, fatty-acid-modified silicones, alcohol-modified silicones, alkoxy-modified silicones, epoxy-modified silicones, fluorine-modified silicones, cyclic silicones, alkyl-modified silicones, and the like.

[0029] Two or more of these silicones may be used in combination. The content of the silicone may range preferably from 0.01 to 20 wt.%, more preferably from 0.1 to 10 wt.%, particularly from 1 to 5 wt.%, all based on the hair cleansing composition according to the present invention.

[0030] To provide the hair cleansing composition according to the present invention with improved stability, foam lubricity and finish, a higher alcohol may also be incorporated. Preferred higher alcohols are those containing linear or branched, particularly linear alkyl groups having the carbon numbers of from 12 to 22, especially from 12 to 16. Specific examples can include lauryl alcohol, myristyl alcohol and cetyl alcohol, with myristyl alcohol being particularly preferred.

[0031] Two or more higher alcohols may be used in combination. The content of the higher alcohol may range preferably from 0.05 to 5 wt.%, more preferably from 0.1 to 3 wt.%, particularly from 0.5 to 2 wt.%, all based on the hair cleansing composition according to the present invention.

[0032] In addition to the above-described ingredients, ingredients which are employed in ordinary hair cleansing compositions can also be incorporated in the hair cleansing composition according to the present invention as needed depending upon the purpose of use. Such ingredients can include, for example, antidandruff agents; vitamins; anti-inflammatories; chelating agents; humectants such as propylene glycol, glycerin, diethylene glycol monoethyl ether, sorbitol and panthenol; colorants such as dyes and pigments; viscosity controlling agents such as hydroxyethylcellulose, methylcellulose, polyethylene glycol, ethanol, and clay mineral; pH adjusters such as potassium hydroxide; plant extracts; pearlants; fragrances; color additives; ultraviolet absorbers; antioxidants; and ingredients described in ENCYCLOPEDIA OF SHAMPOO INGREDIENTS (MICELLE PRESS).

[0033] From the viewpoint of imparting luster and softness to hair and also reducing irritation, the hair cleansing composition according to the present invention has a pH of from 1 to 4, preferably from 2 to 4, particularly from 3 to 4

when diluted 20-fold by weight with water (to the concentration upon application to hair).

[0034] The form of the hair cleansing composition according to the present invention can be chosen as desired, including a liquid form, a powder form, a gel form, and a granular form. However, a liquid form making use of water or a lower alcohol as a solvent, especially water is preferred.

[0035] The hair cleansing composition according to the present invention can be formulated into one for use in a bathroom a shampoo composition, a shampoo with rinse, a treatment or a conditioner, especially a shampoo composition.

Examples

[0036] In the following Examples and Comparative Examples, each "pH" indicates a pH as measured when diluted 20-fold by weight with water.

Examples 1-4 and Comparative Examples 1-4

[0037] Shampoo compositions shown in Table 1 were prepared, and their organoleptic ranking was conducted.

(Washing method)

[0038] Subsequent to thorough moistening of hair, 5 g or 10 g (5 g for semi-long hair, 10 g for long hair) of a shampoo composition were dispensed, and then, the hair was washed. The hair was rinsed thoroughly and then dried fully with hot air from a dryer.

(Organoleptic ranking)

[0039] Ranking was conducted by five expert panelists in accordance with the following ranking systems, and based on average scores, the shampoo compositions were ranked.

- Ranking systems

(1) Foam volume upon foaming

- 4: Foams very well.
- 3: Foams well.
- 2: Foams to ordinary level.
- 1: Does not foam well.
- 0: Does not foam.

(2) Lubricity of foam

- 4: Foams have very high lubricity.
- 3: Foams have good lubricity.
- 2: Foams have some lubricity.
- 1: Foams do not have much lubricity.
- 0: Foams have not lubricity.

(3) Fineness of foams

- 4: Foams are very fine.
- 3: Foams are fine.
- 2: Foams are rather fine.
- 1: Foams are rather coarse.
- 0: Foams are coarse.

(4) Smoothness upon rinsing

- 4: Very smooth.
- 3: Smooth.

- 2: Slightly smooth.
- 1: Not smooth.
- 0: Not smooth at all.

5 (5) Softness of hair after drying

- 4: Very soft.
- 3: Soft.
- 2: Slightly soft.
- 1: Not soft.
- 0: Not soft at all.

(6) Luster of hair after drying

- 4: Pronounced improvement in luster is observed.
- 3: Improvement in luster is observed.
- 2: Some improvement in luster is observed.
- 1: No improvement in luster.
- 0: Luster is lost.

20 Ranking

- A: Average ranking score ≥ 3.5
- B: $3.5 > \text{Average ranking score} \geq 2.5$
- C: $2.5 > \text{Average ranking score} \geq 1.5$
- D: $1.5 > \text{Average ranking score}$

(Stability)

30 [0040] A shelf stability test was conducted at 50°C for 1 month, and ranking was performed in accordance with the following system.

- A: Neither properties nor use feeling remained unchanged.
- B: Properties remained unchanged, but changes occurred in use feeling (deteriorations in foam volume, foam lubricity and the like).
- C: Properties and use feeling were both changed [separation; changes in liquid properties (gelation, viscosity drop); foam volume, foam smoothness and the like were deteriorated].

40

45

50

55

Table 1

	Ingredients (wt. %)	Examples				Comparative Examples			
		1	2	3	4	1	2	3	4
(A)	Sodium POE(2) lauryl ether sulfate	10	15	10	10	-	15	10	10
	Sodium lauryl sulfate	5	-	5	-	-	-	5	
(B)	Cationic guar gum	0.3	0.5	0.3	0.4	0.3	0.3	0.5	-
	Glycolic acid	-	0.5	-	-	-	0.5	-	
(C)	Malic acid	0.75	-	-	0.7	0.75	-	-	0.05
	Lactic acid	0.1	-	1	-	0.1	-	1	-
	Sodium chloride	0.5	1	-	0.5	0.5	-	-	
(D)	Trisodium citrate	-	-	1	-	-	-	1	-
	Benzyl alcohol	0.1	0.1	0.1	0.1	0.1	-	-	
	Lauramidopropyl betaine	-	-	-	2	8	-	-	2
Others	Cocooyl monoethanolamide	-	-	1	-	1	-	1	-
	Cationic cellulose	0.3	-	-	-	0.3	-	0.3	0.3
	Purified water	Bal.	Bal.	Bal.	Bal.	Bal.	Bal.	Bal.	Bal.
	pH (when diluted 20-fold by weight)	3.4	4	3.9	3.5	3.4	4	3.9	5.3
	Foam volume	A	B	A	A	D	A	B	C
	Foam lubricity	A	B	A	A	C	C	B	C
	Smoothness upon rinsing	A	A	A	A	C	C	C	B
	Hair softness after drying	A	B	B	A	B	C	C	C
	Hair luster after drying	A	A	A	A	A	C	C	B
	Stability	A	A	A	A	A	C	C	B
	Ranking								

Example 5 Clear Shampoo

[0041]

	(wt.%)
Sodium POE(2) lauryl ether sulfate	10.0
Cationic guar gum	0.1
Malic acid	0.7
Sodium chloride	1.0
Lauramidopropyl betaine	1.0
Cocoyl monoethanolamide	0.3
Glycerin	1.0
Sodium hydroxide	q.s. to pH 4
Deionized water	Balance

[0042] The above-described shampoo was excellent in foam volume and foam lubricity upon washing, smoothness upon rinsing, and hair luster and softness after drying, and was also superb in stability.

Example 6 Conditioning Shampoo

[0043]

	(wt.%)
Sodium POE(2) lauryl ether sulfate	8.0
Cationic guar gum	0.5
Lactic acid	1.5
Trisodium citrate	1.0
Lauramidopropyl betaine	3.0
Cocoyl monoethanolamide	0.7
Myristyl alcohol	1.0
Ethylene glycol distearate	3.0
Glycerin	1.0
Deionized water	Balance

[0044] The above-described shampoo (pH 3.5) was excellent in foam volume and foam lubricity upon washing, smoothness upon rinsing, and hair luster and softness after drying, and was also superb in stability.

Example 7 Conditioning Shampoo

[0045]

	(wt.%)
Sodium POE(2) lauryl ether sulfate	11.0
Sodium lauryl sulfate	5.0
Cationic guar gum	0.3
Malic acid	0.75
Lactic acid	0.1
Sodium chloride	0.2
Benzyl alcohol	0.5
Cocoyl monoethanolamide	1.0
Dimethicone (polymerization degree: 2,000)	0.25
Dimethicone (polymerization degree: 200)	0.25

(continued)

	(wt.%)
5	Amodimethicone 0.1
	Myristyl alcohol 1.0
	Cetanol 0.5
	Ethylene glycol distearate 3.0
	Cationic hydroxyethylcellulose 0.3
10	Glycerin 1.0
	Sodium hydroxide q.s. to pH 3.7
	Deionized water Balance

[0046] The above-described shampoo was excellent in foam volume and foam lubricity upon washing, smoothness upon rinsing, and hair luster and softness after drying, and was also superb in stability.

Example 8 Conditioning Shampoo

[0047]

	(wt.%)
20	Sodium POE(2) lauryl ether sulfate 8.0
	Cationic guar gum 0.3
25	Malic acid 0.5
	Lactic acid 0.5
	Sodium chloride 1.0
	Lauramidopropyl betaine 3.0
30	Myristyl alcohol 1.0
	Cetanol 0.5
	Behenyltrimonium chloride 0.5
	Ethylene glycol distearate 2.0
	Sodium hydroxide q.s. to pH 3.9
35	Deionized water Balance

[0048] The above-described shampoo was excellent in foam volume and foam lubricity upon washing, smoothness upon rinsing, and hair luster and softness after drying, and was also superb in stability.

Example 9 Antidandruff Shampoo

[0049]

	(wt.%)
45	Sodium POE(2) lauryl ether sulfate 10.0
	Sodium lauryl sulfate 5.5
	Cationic guar gum 0.3
	Malic acid 1.0
50	Sodium chloride 0.2
	Benzoyloxyethanol 0.5
	Cocoyl monoethanolamide 0.5
	Dimethicone (polymerization degree: 2,000) 0.5
	Dimethicone (polymerization degree: 200) 0.5
55	Myristyl alcohol 1.0
	Cetanol 0.5
	Ethylene glycol distearate 3.0

(continued)

	(wt.%)
Cocoyl benzalconium chloride	0.5
Cationic hydroxyethylcellulose	0.3
Glycerin	1.0
Sodium hydroxide	q.s. to pH 4
Deionized water	Balance

- 5 [0050] The above-described shampoo was excellent in foam volume and foam lubricity upon washing, smoothness upon rinsing, and hair luster and softness after drying, and was also superb in stability.

15 **Claims**

1. A hair cleansing composition comprising the following ingredients (A) to (D):
 - (A) an anionic surfactant having a sulfate group,
 - (B) a cationic guar gum,
 - (C) an organic acid selected from a hydroxycarboxylic acid, a dicarboxylic acid or an aromatic carboxylic acid, and
 - (D) a salt;
- 25 wherein said hair cleansing composition has a pH of from 1 to 4 when diluted 20-fold by weight with water.
2. A hair cleansing composition according to claim 1, wherein a content ratio by weight of said ingredient (A) to said ingredient (D) is from 50/0.1 to 3/1.
- 30 3. A hair cleansing composition according to claim 1 or 2, further comprising an aromatic alcohol.
4. A hair cleansing composition according to any one of claims 1-3, further comprising a fatty acid amidopropyl betaine or a fatty acid alkanolamide.
- 35 5. A hair cleansing composition according to any one of claims 1-4, further comprising a silicone.

40

45

50

55

(19)



Europäisches Patentamt

European Patent Office

Office européen des brevets



(11)

EP 1 329 215 A3

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
02.01.2004 Bulletin 2004/01

(51) Int Cl.⁷: A61K 7/06, A61K 7/50

(43) Date of publication A2:
23.07.2003 Bulletin 2003/30

(21) Application number: 03000044.2

(22) Date of filing: 07.01.2003

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HU IE IT LI LU MC NL PT SE SI SK TR
Designated Extension States:
AL LT LV MK RO

(30) Priority: 21.01.2002 JP 2002011923

(71) Applicant: Kao Corporation
Tokyo 103-8210 (JP)

(72) Inventors:

- Terazaki, Hiroyuki
Sumida-ku, Tokyo 131-8501 (JP)
- Kasuga, Fumiko
Sumida-ku, Tokyo 131-8501 (JP)
- Hirota, Osamu
Sumida-ku, Tokyo 131-8501 (JP)

(74) Representative: HOFFMANN - EITLE
Patent- und Rechtsanwälte
Arabellastrasse 4
81925 München (DE)

(54) Hair cleansing compositions

(57) A hair cleansing composition comprises the following ingredients (A) to (D):

- (A) an anionic surfactant having a sulfate group,
- (B) a cationic guar gum,
- (C) an organic acid selected from a hydroxycarboxylic acid, a dicarboxylic acid or an aromatic carboxylic acid, and
- (D) a salt;

and has a pH of from 1 to 4 when diluted 20-fold by

weight with water.

The hair cleansing composition has good foamability and high-lubricity foam quality upon washing and smooth touch upon rinsing, and is excellent in the luster and softness of hair after drying and also superb in stability.

EP 1 329 215 A3



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 03 00 0044

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
X	WO 99 36054 A (RICCA JEAN MARC ;RHONE POULENC CHIMIE (FR)) 22 July 1999 (1999-07-22) * example 9 *	1-5	A61K7/06 A61K7/50
X	EP 1 108 420 A (CLARIANT GMBH) 20 June 2001 (2001-06-20) * example 5 *	1-5	
X	US 5 439 682 A (WIVELL SUSAN C ET AL) 8 August 1995 (1995-08-08) * examples *	1-5	
X	US 5 785 962 A (HINZ SABINE ET AL) 28 July 1998 (1998-07-28) * example 1 *	1-5	
X	WO 01 00151 A (ARCH CHEM INC ;PROCTER & GAMBLE (US)) 4 January 2001 (2001-01-04) * examples 14-17 *	1-5	
A	DE 43 44 141 C (COIFFEUR CONSULTING TEAM ELECT) 13 July 1995 (1995-07-13) * the whole document *	1-5	TECHNICAL FIELDS SEARCHED (Int.Cl.7) A61K
A	US 6 028 041 A (DECOSTER SANDRINE ET AL) 22 February 2000 (2000-02-22) * the whole document *	1-5	
E	WO 03 028681 A (PROCTER & GAMBLE) 10 April 2003 (2003-04-10) * examples 2,16,17 *	1-5	
The present search report has been drawn up for all claims			
Place of search	Date of completion of the search	Examiner	
MUNICH	28 October 2003	Mitchell, G	
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 03 00 0044

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
 The members are as contained in the European Patent Office EDP file on
 The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

28-10-2003

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
WO 9936054	A	22-07-1999		FR 2773710 A1 AU 2058699 A BR 9907113 A CA 2318337 A1 EP 1049456 A1 WO 9936054 A1 US 2003086953 A1 US 6475474 B1	23-07-1999 02-08-1999 21-08-2001 22-07-1999 08-11-2000 22-07-1999 08-05-2003 05-11-2002
EP 1108420	A	20-06-2001		DE 19961256 A1 EP 1108420 A1 JP 2001172121 A US 2003049292 A1 US 2002037299 A1	21-06-2001 20-06-2001 26-06-2001 13-03-2003 28-03-2002
US 5439682	A	08-08-1995		US 5599549 A US 5560918 A AU 3136593 A CA 2122272 A1 EP 0613369 A1 JP 7501077 T MX 9206741 A1 PT 101082 A WO 9309761 A1	04-02-1997 01-10-1996 15-06-1993 27-05-1993 07-09-1994 02-02-1995 01-05-1993 28-02-1994 27-05-1993
US 5785962	A	28-07-1998		DE 19504914 C1 AT 155036 T AU 696033 B2 AU 4445796 A CA 2169530 A1 DE 59600010 D1 DK 727204 T3 EP 0727204 A1 ES 2105902 T3 FI 960654 A JP 8239312 A	16-11-1995 15-07-1997 27-08-1998 22-08-1996 16-08-1996 14-08-1997 02-02-1998 21-08-1996 16-10-1997 16-08-1996 17-09-1996
WO 0100151	A	04-01-2001		AU 5884600 A AU 6054800 A BR 0011852 A BR 0011858 A CA 2375975 A1 CA 2376803 A1 CN 1364056 T CN 1414846 T EP 1189581 A1	31-01-2001 31-01-2001 30-04-2002 02-07-2002 04-01-2001 04-01-2001 14-08-2002 30-04-2003 27-03-2002

EPO FORM P059

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 03 00 0044

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
 The members are as contained in the European Patent Office EDP file on
 The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

28-10-2003

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
WO 0100151	A			EP 1189504 A1 JP 2003522734 T JP 2003503333 T WO 0100151 A1 WO 0100021 A1	27-03-2002 29-07-2003 28-01-2003 04-01-2001 04-01-2001
DE 4344141	C	13-07-1995		DE 4344141 C1 WO 9517157 A2 EP 0804139 A1	13-07-1995 29-06-1995 05-11-1997
US 6028041	A	22-02-2000		FR 2748203 A1 AT 234068 T AU 684444 B1 BR 9700674 A CA 2204540 A1 CN 1173322 A ,B DE 69719603 D1 DE 69719603 T2 DK 811371 T3 EP 0811371 A2 HU 9700843 A2 JP 2996630 B2 JP 10045544 A KR 238340 B1 PL 319810 A1 PT 811371 T RU 2166927 C2 ZA 9703432 A	07-11-1997 15-03-2003 11-12-1997 01-09-1998 06-11-1997 18-02-1998 17-04-2003 18-09-2003 22-04-2003 10-12-1997 02-03-1998 11-01-2000 17-02-1998 02-03-2000 10-11-1997 31-07-2003 20-05-2001 19-11-1997
WO 03028681	A	10-04-2003		WO 03028681 A1 US 2003091521 A1	10-04-2003 15-05-2003